Remarks

Reconsideration is requested in view of the preceding amendments and the following remarks. Claims 1-5, 7-12, 14 and 19-26 are pending of which claims 1, 9, and 25-26 are independent. Claim 25 is amended for clarification, and no new claims are submitted for consideration.

Cited Art

The Action cites:

1.   Brown et al., U.S. Patent No. 5,557,686 (hereinafter "Brown");

2.   Matchett, U.S. Patent No. 5,229,764 (hereinafter "Matchett");

3.   Akiyama et al., U.S. Patent No. 5,768,387 (hereinafter "Akiyama"); and

4.   Boebert et al., U.S. Patent No. 5,596,718 (hereinafter "Boebert").

Rejections under 35 U.S.C. § 103 in View of Brown, Matchett, and Akiyama

Claims 1-2, 4-5, 7-12, 14, and 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown in view of Matchett and further in view of Akiyama. This rejection is traversed.

Independent Claim 1

Claim 1 recites a behavioral biometrics-based user verification system for use with a mouse input device that comprises, in part,

> a data interception unit for receiving inputs from a user, wherein the data interception unit is configured to passively collect mouse data generated in response to the user;
> a behavior analysis unit operatively coupled to said data interception unit to receive the passively collected mouse data; and
> a behavior comparison unit operatively coupled to said behavior analysis unit, wherein said system dynamically monitors and passively collects behavioral biometric information, and translates said behavioral biometrics information into representative data, stores and compares different results, and outputs a user identity result.

The proposed Brown/Matchett/Akiyama combination fails to disclose these features and combination of features. As admitted by the Action, Brown fails to disclose

that the "input device is a mouse and wherein the data interception unit is configured to passively collect mouse data generated in response to the user." Matchett fails to cure the deficiencies of Brown. Matchett is cited as disclosing "that the input device is a mouse and wherein the data interception unit is configured to passively collect mouse data generated in response to the user" at col. 13, lines 12-28 and Figure 11. Applicants respectfully disagree. While Figure 11 includes a mouse, this mouse is a "thumbscanning or hand geometry reading mouse," i.e., a mouse to which special-purpose thumbscanning and hand geometry reading hardware have been added to collect fingerprints and hand geometry. The data generated by this hardware is not mouse data, i.e., data provided in response to mouse movements for the operation of applications at a computer work station. In addition, the data generated by the specialized mouse of Matchett is not *passively* collected as the user is aware that such data is collected as collection of this data requires specific placements of the thumb and hand. User cooperation is required to collect Matchett's data, while actual mouse data is necessarily generated during use of the mouse in communication with a computer system. Finally, even if the data generated by Matchett's specialized mouse were "mouse data" as recited in claim 1, Matchett's data is physiological data, not behavioral data and not suitable for coupling to "a behavior analysis unit" as claimed.

Akiyama fails to cure the deficiencies of Brown and Matchett. While Akiyama discloses collection of mouse data, this mouse data is collected in response to a menu screen presented to the user:

> In the case where a mouse is used, a menu screen is caused to be displayed such as that shown in FIG. 12. and the tracks of the mouse movements on the menu screen may be detected, and the characteristics information may be a function that shows the path of these tracks (refer to FIG. 8).

[Akiyama, col. 11, lines 42-46.] Akiyama does not disclose or suggest *passive* collection of mouse data, or how an identity result could be obtained based on such passive mouse data. For at least this reason, claim 1 and its dependent claims are properly allowable.

Independent Claim 9

Claim 9 recites a method of characterizing a user comprising the steps of:

moving a computer mouse,

> dynamically monitoring and passively collecting behavioral biometric
> information from the mouse,
>> processing said passively collected behavioral biometric information, and
>> developing a signature for a user based on the processed information.

The proposed Brown/Matchett/Akiyama combination fails to disclose all the features of claim 9. For example, Brown fails to disclose "dynamically monitoring and passively collecting behavioral biometric information from [a] mouse." Matchett merely discloses a specially adapted mouse to which a thumbscanning sensor and a hand geometry sensor have been added. Matchett does not teach or suggest collecting actual mouse data, i.e., data generated by the mouse so as to move a mouse pointer, nor collecting mouse data passively. Matchett also fails to disclose "behavioral biometric information" from the mouse—Matchett's specialized mouse provides only physiological data (thumb scans or hand geometries). While Akiyama discloses collection of mouse data, this collection is in response to a menu screen presented to the user, and thus Akiyama does not teach or suggest *passively* collecting behavioral biometric information from a mouse. For at least these reasons, claim 9 and its dependent claim are properly allowable.

Independent Claim 25

Claim 25 recites a behavioral biometrics-based user verification system for use with a mouse input device that comprises

> a data interception unit for receiving inputs from a user, wherein the data
> interception unit is configured to passively initiate collection of mouse data;
> a behavior analysis unit operatively coupled to said data interception unit
> to receive the passively collected mouse data; and
> a behavior comparison unit operatively coupled to said behavior analysis
> unit, wherein said system dynamically monitors and passively collects behavioral
> biometric information based on the passively collected mouse data, and translates
> said behavioral biometrics information into representative data, stores and
> compares different results, and outputs a user identity result.

The proposed Brown/Matchett/Akiyama combination fails to disclose all the features of claim 25. Brown fails to disclose "a behavior analysis unit operatively coupled to said data interception unit to receive the passively collected mouse data." Matchett fails to cure the deficiencies of Brown. Matchett discloses a specially adapted mouse to which a thumbscanning sensor and a hand geometry sensor have been added. Matchett does not teach or suggest

collecting actual mouse data, i.e., data generated by the mouse so as to move a mouse pointer. Furthermore, Matchett's specialized mouse data is physiological data, and does not correspond to the "behavioral biometric information based on the passively collected mouse data" as claimed. Akiyama collects mouse data in response to a menu screen presented to a user, and thus does not teach or suggest *passively* collected mouse data. For at least these reasons, claim 25 is properly allowable.

Independent Claim 26

Claim 26 recites a behavioral biometrics-based user verification system for use with a mouse input device. The system comprises:

> a data interception unit for receiving inputs from a user, wherein the data interception unit is configured to transparently collect mouse data generated in response to the user;
> a behavior analysis unit operatively coupled to said data interception unit to receive the transparently collected mouse data; and
> a behavior comparison unit operatively coupled to said behavior analysis unit, wherein said system dynamically monitors and passively collects behavioral biometric information, and translates said behavioral biometrics information into representative data, stores and compares different results, and outputs a user identity result.

The proposed Brown/Matchett/Akiyama fails to disclose all the features of claim 26. Brown fails to disclose a data interception unit "configured to *transparently* collect mouse data generated in response to the user." Matchett fails to cure the deficiencies of Brown. Matchett discloses a specially adapted mouse to which a thumbscanning sensor and a hand geometry sensor have been added. Matchett does not teach or suggest transparently collecting actual mouse data, i.e., data generated by the mouse so as to move a mouse pointer. Akiyama does not teach or suggest *transparently* collecting mouse data but instead collects mouse data in response to a menu screen presented to a user. For at least these reasons, claim 26 is properly allowable.

Rejections under 35 U.S.C. § 103 in View of Brown, Matchett, Akiyama, and Boebert

Claim 3 is rejected as obvious from a combination of Brown, Matchett, Akiyama, and Boebert. This rejection is traversed. As claim 2 is properly allowable as dependent from allowable claim 1, this rejection is not belabored further.

Conclusion

In view of the above, Applicants believe that the application is in condition for allowance. Accordingly, Applicants respectfully request issuance of a Notice of Allowability. If any issues arise, or if a telephone interview would be helpful, the Examiner is requested to telephone the undersigned.

Respectfully submitted,

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